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IBM DOCKET NO. AUS920010639US1

DATE: June 2, 2005

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JFW

**Application Serial No.: 09/996,129**

**Assignee Name: International Business Machines Corporation**  
**Assignee Residence: Armonk, New York**

Sir:

Transmitted herewith for filing is the Patent Application of:

Inventors: Sweitzer, et al.

For: System and Method for Analyzing Software Components using Calibration Factors

Enclosed are:

X Appeal Brief (71 pages).

Any additional filing fees have been calculated as shown below:

X Please charge my Deposit Account No. 09-0447 in the amount of **\$500.00**.  
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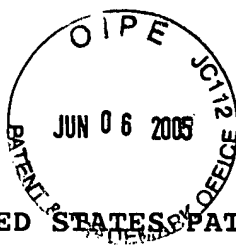
X Any additional filing fees required under 37 CFR Sect. 1.16.

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X No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and the undersigned hereby authorizes the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

Respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:  
Sweitzer, et. al.

Serial No.: 09/996,129

Filed: November 28, 2001

Title: System and Method  
for Analyzing Software  
Components using  
Calibration Factors

\$ Group Art Unit: 2164

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\$ Examiner: Channavajjala, Srirama T.

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\$ Attorney Docket No. AUS920010639US1

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Joseph T. Van Leeuwen

6/2/05  
Date

**APPELLANTS' BRIEF (37 CFR § 41.37)**

Sir:

**A. INTRODUCTORY COMMENTS**

This brief is filed in support of the previously filed Notice of Appeal, filed in this case on April 4, 2005, which appealed from the decision of the Examiner dated January 4, 2005 finally rejecting claims 1-20. Please charge the required fee under 37 CFR § 41.20(b)(2) to IBM Corporation Deposit Account No. 09-0447.

The two-month deadline for filing this Appeal Brief is June 6, 2005, as June 4 falls on a Saturday, therefore, no extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and the undersigned hereby authorizes the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

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Docket No. AUS920010639US1

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Sweitzer, et. al. - 09/996,129

Atty Ref. No. IBM-1039

**B. REAL PARTY IN INTEREST**

The real party in interest in this appeal is International Business Machines Corporation, which is the assignee of the entire right, title, and interest in the above-identified patent application.

**C. RELATED APPEALS AND INTERFERENCES**

With respect to other prior or pending appeals, interferences, or judicial proceedings that are related to, will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such prior or pending appeals, interferences, or judicial proceeding known to Appellants, Appellants' legal representative, or assignee.

**D. STATUS OF CLAIMS***1. Total number of claims in application*

There are 20 claims pending. Three claims are independent claims (1, 8, and 14), and the remaining claims are dependent claims.

*2. Status of all claims in application*

- Claims canceled: None.
- Claims withdrawn from consideration but not canceled: None.
- Claims pending: 20
- Claims allowed: None
- Claims rejected: 20

*3. Claims on appeal*

The claims on appeal are: claims 1-20.

**E. STATUS OF AMENDMENTS**

All amendments have been entered in this case. No amendments have been made to the claims after the Final Office Action.

**F. SUMMARY OF CLAIMED SUBJECT MATTER**

Appellants provide a concise summary of the claimed subject matter as follows. Claims 1, 8, and 14 are independent claims. Note that claims 1-7 are method claims, claims 8-13 are information handling system claims, and claims 14-20 are computer program product claims. Independent claims 8 and 14 include means plus function limitations that correspond to the method steps set forth in independent claim 1. An information handling system capable of implementing Appellants' invention, as claimed in independent claim 8, is shown in Figure 12, and described in Appellants' specification on page 28 line 4 – page 29, line 20. Support for independent computer program product claim 14 is described in Appellants' specification on page 29, line 21 – page 30, line 8. In addition, support for each of the method steps and means plus function limitations of the independent claims are discussed below. The specific citations to Appellants' Figures and Specification are meant to be exemplary in nature, and do not limit the scope of the claims. In particular, the citations below do not limit the scope of equivalents as provided under 35 U.S.C. § 112, sixth paragraph.

One aspect of Appellants' invention is a method, information handling system, and computer program product for identifying one or more client attributes corresponding to the client (see e.g., Figure 3, element 300; specification page 10, line 24 through page 12, line 5); comparing the identified client attributes to one or more topographical components (see e.g., Figure 3, element 380; specification page 10, line 24 through page 12, line 5; and Figure 10, elements 1010 through 1035; specification page 25, line 18 through page 27, line 3); selecting one or more of the topographical components based on the comparing Figure 10, elements 1050 through 1055; specification page 25, line 18 through page 27, line 3; and installing the selected topographical components on one or more client computer systems (see e.g., Figure 10, elements 1060 through 1075; specification page 25, line 18 through page 27, line 3).

Support for each of Appellants' means plus function limitations set forth in dependent claims is provided below. Note that general support for an information handling system and

computer program product is discussed above. The specific citations to Appellant's Figures and Specification are meant to be exemplary in nature, and do not limit the scope of the claims, as provided under 35 U.S.C. § 112, sixth paragraph.

Claim 9 and 15 each include the following means plus function limitation:

means for grouping a plurality of calibration factors into one or more calibration sets, wherein the comparing further includes comparing the identified client attributes to the calibration factor sets (see e.g., Figure 7, elements 740 through 780, specification page 17, line 13 through page 19, line 30).

Claim 11 and 17 each include the following means plus function limitations:

means for storing one or more calibration factors corresponding to each of the topographical components in a component metadata file (see e.g., Figure 4, element 400 and 405, specification page 12, line 6 through page 15, line 11), wherein the comparing further includes comparing the identified client attributes with the calibration factors stored in the metadata file (see e.g., Figure 10, elements 1005 through 1015; specification page 25, line 18 through page 27, line 3);

means for identifying one or more components based on the comparing (see e.g., Figure 10, elements 1045; specification page 25, line 18 through page 27, line 3); and

means for retrieving the identified components from a topographical component library (see e.g., Figure 10, elements 1050; specification page 25, line 18 through page 27, line 3).

Claim 12 and 18 each include the following means plus function limitations:

means for packaging the selected topographical components in a topography installation file (see e.g., Figure 10, elements 1060 - 1063; specification page 25, line 18 through page 27, line 3); and

means for transmitting the topography installation file to the client computer system (see e.g., Figure 10, elements 1060 - 1063; specification page 25, line 18 through page 27, line 3).

Claim 13 and 19 each include the following means plus function limitation:

means for gathering the client attributes, the means for gathering including examining one or more attributes selected from the group consisting of client organization charts, client information technology, client surveys, client requirements, client physical environments, and client location data (see e.g., Figure 3, elements 300 - 316; specification page 10, line 24 through page 12, line 5).

Claim 20 includes the following means plus function limitation:

means for installing one or more topography neutral application components on the client computer systems, wherein the topography neutral application components is adapted to interoperate with more than one topography (see e.g., Figure 2, elements 200 - 240; specification page 9, line 26 – page 10, line 23).

**G. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1-6, 8-12, and 14-19 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent Publ. No. 2002/0042751 to Sarno (hereinafter “Sarno”). In addition, claims 7 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sarno in view of U.S. Patent 6,662,357 to Bowman-Amauh (hereinafter “Bowman-Amauh”).

**H. ARGUMENTS – APPELLANTS’ CLAIMS ARE NOT ANTICIPATED BY SARNO BECAUSE (A) SARNO IS NOT PRIOR ART TO APPELLANTS’ CLAIMED INVENTION AND (B) SARNO DOES NOT TEACH OR SUGGEST APPELLANTS’ CLAIMED INVENTION.****(A) Sarno is Not Prior Art to Appellants’ Claimed Invention**

The First Office Action (mailing date April 30, 2004), rejected claims 1-6, 8-12, and 14-19 under 35 U.S.C. § 102(e) as being anticipated by Sarno. Appellants’ Response (filed July 30, 2004), included a properly executed declaration with attached exhibits (Exhibits “A” and “B”), declaring that Appellants’ conceived of the claimed invention before the effective filing date of Sarno and diligently reduced the invention to practice. Appellants’ Declaration and Exhibits “A” and “B” thereto are attached hereto in the Evidence Appendix (Section J). As can be seen, Appellants’ Exhibit “A” is a detailed 31 page strategic development document that outlines and details, among other things, a system for analyzing and utilizing software components. A major section of the paper is entitled “Components” (starting on page number 12), and another major section of the paper is entitled “Topographical Components.” These sections provide a large amount of detail that was used to create Appellants’ specification and, in turn, provide a basis for Appellants’ claims. Exhibit “B” is a detailed patent disclosure that was submitted to IBM’s Intellectual Property Law Department in Austin, Texas prior to the filing date of the Sarno reference.

In the Final Office Action (mailing date January 4, 2005), the Examiner acknowledged Appellants’ declaration under 37 CFR § 1.131 and Exhibits “A” and “B” thereto. However, the Examiner rejected Appellants’ declaration stating that that Appellants failed “to specifically point

out or map specific portions and dates that correspond to specific limitation of the Claims 1-20 in the applicant's (sic) ... Declaration Under 37 CFR 1.131 and work." The Examiner further objected to Appellants' deletion (blackened out) of dates that are prior to July 6, 2000 (the date of the Sarno reference) and that the "Examiner cannot determine exact date of the exhibits." The Examiner concludes by stating that the "Applicant (sic) is hereby required to provide all required information that (sic) including specifically pointing out or mapping each claim limitation [claims 1 – 20] into his/her submitted Exhibit "A", and Exhibit "B" in response to the office action." (emphasis in original).

Appellants note that the Examiner provides absolutely no support, in the CFR or MPEP, for the Examiner's unusual and onerous requirements for Appellants' Exhibits. A review of applicable Rules and Examining Procedures reveals that the Examiner's onerous requirements are simply not supported in either the MPEP or the CFR.

MPEP § 715 relates to "Swearing Back of Reference – Affidavit or Declaration under 37 CFR § 1.131." Within this Section, MPEP § 715.02, entitled "How Much of the Claimed Invention Must Be Shown, Including the General Rule as to Generic Claims," discusses the extent to which Appellants' declaration needs to establish Appellants' possession of the claimed invention. MPEP § 715.02 states (emphasis added):

The 37 CFR 1.131 affidavit or declaration must establish possession of either the whole invention claimed or something falling within the claim (such as a species of a claimed genus), in the sense that the claim as a whole reads on it. *In re Tanczyn*, 347 F.2d 830, 146 USPQ 298 (CCPA 1965) (Where applicant claims an alloy comprising both nitrogen and molybdenum, an affidavit showing applicant made an alloy comprising nitrogen but not molybdenum is not sufficient under 37 CFR 1.131 to overcome a rejection under 35 U.S.C. 103 based on the combined teachings of one reference disclosing an alloy comprising nitrogen but not molybdenum and a second reference disclosing an alloy comprising molybdenum but not nitrogen). Note, however, where the differences between the claimed invention and the disclosure of the reference(s) are so small as to render the claims obvious over the reference(s), an affidavit or declaration under 37 CFR 1.131 is required to show no more than the reference shows. *In re Stryker*, 435 F.2d 1340, 168 USPQ 372 (CCPA 1971). In other words, where the examiner, in rejecting a claim under 35 U.S.C. 103, has treated a claim limitation as being an obvious feature or modification of the disclosure of the reference(s) relied upon, without citation of a reference which teaches such feature or modification, a 37 CFR 1.131 affidavit or declaration may be sufficient to overcome the rejection even if it does not show such feature or modification.



Further, a 37 CFR 1.131 affidavit is not insufficient merely because it does not show the identical disclosure of the reference(s) or the identical subject matter involved in the activity relied upon. *If the affidavit contains facts showing a completion of the invention commensurate with the extent of the invention as claimed is shown in the reference or activity, the affidavit or declaration is sufficient, whether or not it is a showing of the identical disclosure of the reference or the identical subject matter involved in the activity.* See *In re Wakefield*, 422 F.2d 897, 164 USPQ 636 (CCPA 1970).

Even if applicant's 37 CFR 1.131 affidavit is not fully commensurate with the rejected claim, the applicant can still overcome the rejection by showing that the differences between the claimed invention and the showing under 37 CFR 1.131 would have been obvious to one of ordinary skill in the art, in view of applicant's 37 CFR 1.131 evidence, prior to the effective date of the reference(s) or the activity. Such evidence is sufficient because applicant's possession of what is shown carries with it possession of variations and adaptations which would have been obvious, at the same time, to one of ordinary skill in the art. However, the affidavit or declaration showing must still establish possession of the invention (i.e., the basic inventive concept) and not just of what one reference (in a combination of applied references) happens to show, if that reference does not itself teach the basic inventive concept. *In re Spiller*, 500 F.2d 1170, 182 USPQ 614 (CCPA 1974) (Claimed invention was use of electrostatic forces to adhere dry starch particles to a wet paper web on the Fourdrinier wire of a paper-making machine. 37 CFR 1.131 affidavit established use of electrostatic forces to adhere starch particles to wet blotting paper moved over a fluidized bed of starch particles prior to the applied reference date. Affidavit was sufficient in view of prior art reference showing that deposition of dry coatings directly on wet webs on the Fourdrinier wire of a paper-making machine was well known in the art prior to the date of the applied reference. The affidavit established possession of the basic invention, i.e., use of electrostatic forces to adhere starch to wet paper.).

Appellants respectfully submit that the detail provided in Exhibits "A" and "B" more than satisfy the requirements for swearing behind a reference pursuant to 37 CFR § 1.131 and MPEP § 715.02. For example, pages 16 to 18 of Exhibit "A" discusses Appellants' "Topographical Components" that "allows engineers to categorize the capabilities of a particular implementation." Pages 8 and 9 of Exhibit "A" describe a "component architecture" and the implementation of those resources on various topographies. *Client attributes* to which the "component architecture" is directed are *identified* and described on page 10 of Exhibit "A." The page labeled "Page 2" of Appellants' Exhibit "B" describes implementing topographical components on identified client systems that incorporate a philosophy-specific management system (i.e. *comparing* client attributes with components). Finally, *installation* of the "topographical backplane" that encompasses "widely accepted view among customer[s] about how installation should be performed," is discussed on pages 25 and 26 of Exhibit "A."

Accordingly, Exhibits “A” and “B” show that Appellants were in possession of each of the limitations set forth in each of Appellants’ independent claims.

The Examiner’s “requirement” for information “specifically pointing out or mapping each claim limitation [claims 1-20] into his/her submitted Exhibit ‘A’, and Exhibit ‘B’” is entirely without support in the MPEP. The Examiner’s “requirement” is tantamount to requiring that Appellants Exhibits “A” and “B” be identical to Appellants’ application. Single-handedly, the Examiner’s “requirement” seeks to rewrite U.S. Patent Law and impose a “first to file” requirement on U.S. patent applications, eliminating the long-established “first to invent” system used in the United States.

The court, in *In re Wakefield*, 422 F.2d 897, 164 USPQ 636 (CCPA 1970), expressly held that *if the affidavit contains facts showing a completion of the invention commensurate with the extent of the invention as claimed is shown in the reference or activity, the affidavit or declaration is sufficient, whether or not it is a showing of the identical disclosure of the reference or the identical subject matter involved in the activity.* This is the requirement that the Examiner must use when evaluating Appellants’ Rule 1.131 declaration, and not the arbitrary and onerous requirement set forth in the Final Office Action by the Examiner.

Appellants respectfully submit that Appellants’ declaration and Exhibits “A” and “B” are more than satisfactory meeting the true “requirement” for Rule 1.131 declarations set forth in the courts and as promulgated in both the MPEP and the CFR. Consequently, the Sarno reference is not prior art to Appellants’ claimed invention and Appellants’ claims are allowable over Sarno.

The Examiner also objected to Appellants’ declaration under 37 CFR 1.131 because Appellants’ blacked out or removed dates in the Exhibits that were before the first effective filing date of Sarno. In Appellant’s declaration, Appellant Douglass Wood stated that blacked out dates are prior to July 6, 2000 (the earliest effective filing date of the Sarno reference). MPEP § 715.07(II), entitled “Establishment of Dates,” provides that dates in Exhibits that are “removed or blocked off” can be “taken care of in the body of the oath or declaration.” This Section of the MPEP provides that “if the applicant ... does not desire to disclose ... actual dates, he or she may merely allege that the acts referred to occurred prior to a specified date.” Appellants respectfully

submit that the removal, or blocking out, of dates in Exhibits is a common and well established practice when swearing behind a reference pursuant to 37 CFR § 1.131. Accordingly, Appellants respectfully submit that the Examiner's objection to Appellants' removal of dates from Appellants' Exhibits is improper and must be withdrawn.

Appellants have sufficiently evidenced their possession of the claimed invention, as set forth in at least the independent claims, at a date prior to that of the Sarno reference. Consequently, Sarno is not a valid prior art reference and it was improper for the Examiner to finally reject Appellants' claims based on the Sarno reference in light of Appellants' declaration and Exhibits. Accordingly, claims 1, 8, and 14 are each allowable because the only reference used in rejecting these claims was the Sarno reference. Each of the remaining claims depends, directly or indirectly, on one of the independent claims and, therefore, the remaining claims are each allowable for at least the same reasons that claims 1, 8, and 14 are allowable.

(B) Notwithstanding the Fact that Sarno is Not Prior Art to Appellants' Claimed Invention, Sarno Also Fails to Anticipate Appellants' Claimed Invention

The Final Office Action alleges that Sarno anticipates claims 1-6, 8-12, and 14-19 of Appellants' claimed invention. Analysis of the Sarno reference reveals that this is simply not the case.

In order to anticipate under 35 U.S.C. § 102, the Sarno reference must teach each and every element as set forth in Appellants' claims. MPEP § 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As discussed below, it is readily apparent that Sarno falls well short of this requirement.

In each of the independent claims (1, 8, and 14), Appellants claim a method / system / program product of calibrating a topography for a client with limitations of:

- identifying one or more client attributes corresponding to the client;
- comparing the identified client attributes to one or more topographical components;
- selecting one or more of the topographical components based on the comparing; and
- installing the selected topographical components on one or more client computer systems.

The Final Office Action contends that Sarno teaches each of these limitations. However, Sarno clearly does not teach each and every limitation set forth in Appellants' independent claims, in fact, Appellants submit that Sarno fails to teach any of Appellants' claim limitations. Sarno is a patent publication directed towards a cost justification method used in business financial analysis and has nothing to do whatsoever with using client attributes to install topographical software components on the client computer system. A comparison of Appellants' actual claim limitations with the descriptions found in Sarno readily reveals that Sarno simply does not teach or suggest Appellants' claimed invention.

The Final Office Action cites Sarno as teaching Appellants' "identifying..." step and cites page 7, ¶ 0073, lines 1-7 in support of this contention. The cited lines of Sarno read as follow:

In some embodiments, the present invention provides software applications for receiving user information related to the implementation of a business decision (e.g., a decision to purchase and implement new software), manipulating the data, and providing a summary that allows decision-makers within a company to evaluate the merits of implementing the business decision.

In essence, Sarno is concerned with *whether or not to purchase and install new software* (a financial decision), and not with identifying particular topographical components that match the client's particular attributes (a technical installation decision), to which Appellants' claimed invention is directed.

The Final Office Action next contends that Sarno teaches the claimed limitation of "comparing the identified client attributes to one or more topographical components," and cites page 2, ¶ 0010, lines 12-23 in support of this contention. Paragraph 10 of Sarno reads as follows (emphasis added):

[0010] In certain embodiments, the present invention provides a method of cost justification analysis for a user comprising; a) providing; i) a user interface capable of receiving user information, ii) a cost justification application operably linked to the user interface, and iii) a computer system comprising the cost justification application, b) receiving the user information by way of the user interface, c) processing the user information with the cost justification application to generate results, d) modifying the user information to generate modified user information, and e) processing the user information with the cost justification application to generate modified results. In some embodiments, the method further comprises step f) comparing the results and the modified results. In certain embodiments, the comparing step allows the most suitable

rollout schedule to be determined. In other embodiments, the comparing step allows the impact of different rollout schedules to be determined. In certain embodiments, the comparing step allows the impact of different expense rule to be determined. In particular embodiments, the comparing step allows the suitability of different vendor products to be evaluated (e.g., two or more vendor products may be compared for suitability for a particular user).

Once again, Sarno does not teach or suggest Appellants' claimed limitation of *"comparing the identified client attributes to one or more topographical components."* Instead, Sarno is directed at a system that performs cost justification analysis. The only "comparing" that Sarno teaches in the cited section is comparing results from a cost justification system to "modified" results from the same system. Importantly, Sarno neither teaches nor suggests comparing anything to topographical components, as claimed by Appellants. Indeed, a review of the entire Sarno reference reveals that none of the words "topographical," "topography," "topology," "topography" appear anywhere in the Sarno reference. In light of this observation, Appellants respectfully submit that the Sarno reference is completely inapposite to Appellants' claimed invention, regardless of the fact that Sarno is not prior art to Appellants' invention.

Appellants' next limitation, *"selecting one or more of the topographical components based on the comparing,"* is also not taught or suggested by Sarno, contrary to the contentions made in the Final Office Action. The Final Office Action cites Sarno, page 2, ¶ 0010, lines 12-23, page 2, ¶ 0012, lines 21-22 and page 3, lines 1-3 as support. As described in the preceding section, Sarno does not teach or suggest anything regarding "topographical" elements or components and the word "topographical" (and similar words) do not appear anywhere in the Sarno reference. Paragraph 0010 of Sarno, also discussed above, teaches a method of performing cost justification regarding a computer system. Paragraph 12 further teaches aspects of Sarno's cost justification system. In particular, paragraph 12 teaches that information used in Sarno's cost justification system is selected from "buyer information, rollout schedule information, knowledge base information, expense rule information, or combinations thereof." Each of the items listed by Sarno relate to the cost justification system/method taught by Sarno and, once again, have nothing to do with the Appellants' claimed invention. In particular, neither of these paragraphs, nor the rest of the Sarno reference, teaches or suggests Appellants' claimed limitation of *"selecting one or more of the topographical components based on the comparing."*

The last limitation found in each of Appellants' independent claims, "*installing the selected topographical components on one or more client computer systems*," is also not taught or suggested by Sarno. As an initial matter, Appellants point out that, as established above, Sarno does not teach or suggest anything to do with "topographical components" nor does Sarno teach or suggest "selecting" any such components. Therefore, it would be impossible for Sarno to teach or suggest "installing selected topographical components..." as claimed by Appellants. The Final Office Action cites Sarno at page 23, ¶ 0201, lines 7-28, and Figure 32 in support of this rejection. The cited section of Sarno reads as follows:

As depicted in FIG. 32, savings information associated with the roles being evaluated (e.g., client administrators), along with the activities associated with each role (e.g., software installation and asset management), may be entered in to the user interface. Furthermore, the personnel roles may also be associated with revenue increases (which may be designated by checking the `Role Increase Revenue` box in FIG. 32). Finally, as depicted in FIG. 33, the modify assets form allows a user to enter information regarding assets that will show a savings based on the impact of the vendor solution. The example depicted in FIG. 33 allows a user to select up to three assets that will be show a savings (e.g., ABC projects that their solution will save customers on Client Workstations). Once this step is complete, a customized template for a particularized scenario is ready to be employed (e.g., by entering user information). In some embodiments of the present invention, the cost justification software guides the user in selecting the above criteria (e.g., selecting the number of and identity of the roles and activities to be analyzed). In preferred embodiments, the guidance is based on knowledge base information contained in the cost justification software of the present invention.

As is readily seen by the cited section, Sarno is concerned with "savings information associated with the roles being evaluated." Interestingly, Sarno does not actually teach or suggest "installing" anything in the cited section. Instead, the cited section is directed at gathering information used to perform a cost justification analysis. Once again, Sarno is completely bereft of any description that teaches or suggests Appellants' claimed limitation. Not only does Sarno not teach or suggest "*installing ... selected topographical components on one or more client computer systems*," it does not teach or suggest "installing" nor does it teach or suggest anything to do with *topographical components*, as claimed by Appellants.

In order to support the Examiner's rejection of anticipation under 35 U.S.C. § 102(e), the Sarno reference must teach each and every element as claimed by Appellants. Appellants have demonstrated that Sarno does not teach or suggest any of Appellants claimed limitations as set forth in Appellants' independent claims. Moreover, the Sarno reference is not even prior art to

Appellants' claimed invention. As a result, the rejection of Appellants' independent claims under § 102 cannot stand, for either of these reasons. Consequently, each of Appellants' independent claims is allowable over Sarno. The remaining claims each depend, directly or indirectly, on one of the independent claims and, therefore, are allowable for at least the same reasons that the independent claims are allowable. Accordingly, Appellants respectfully request that the rejections of Appellants' claims set forth in the Final Office Action be **REVERSED** and that Appellants' claims be allowed over the art of record.

**(C) SARNO FAILS TO TEACH OR SUGGEST  
APPELLANTS DEPENDENT CLAIMS**

As described in the preceding section, each of Appellants' independent claims is allowable over Sarno and the rejections of these claims should accordingly be REVERSED. Each of Appellants' dependent claims is also allowable for at least the same reasons that the independent claims are allowable. Notwithstanding this reason for allowability, in this section Appellants discuss the allowability of each of the claims rejected as being anticipated by Sarno (claims 2-6, 9-13, and 15-19). Each of these claims is allowable for the separate reasons set forth below.

**Claims 2, 9, and 15**

Claims 2, 9, and 15 are dependent claims of claims 1, 8, and 14, respectively. Despite the fact that each of these claims are allowable because each depends on an allowable independent claim, the additional limitations claimed in these claims are additionally allowable because they are not taught or suggested by Sarno. These claims are directed to a method / system / program product that further provides for "grouping a plurality of calibration factors into one or more calibration sets, wherein the comparing further includes comparing the identified client attributes to the calibration factor sets." The Final Office Action cites Sarno, page 19-20, ¶ 0173, in support of this contention.

Appellants note that ¶ 0173 is only on page 19, while ¶ 0176 spans pages 19 and 20. However, neither of these paragraphs teach or suggest Appellants' "grouping" limitation. Paragraph 0173 describes "system administrator" responsibilities, such as load balancing and

system performance that are impacted by data warehousing. Paragraph 0176 describes a user interface screen that is shown in Figure 5 where the user enters data used by Sarno's cost justification software. Importantly, neither paragraph (0173 or 0176) teaches or suggests "grouping" anything, let alone grouping calibration factors into one or more calibration sets as claimed by Appellants. Furthermore, Appellants' claims further limit the "comparing" element found in the independent claims to "comparing the identified client attributes to the calibration factor set." Again, nowhere does Sarno teach or suggest such a comparison. Consequently, claims 2, 9, and 15 are independently allowable for these reasons in addition to these claims being allowable because they depend on allowable independent claims.

### **Claims 3, 10, and 16**

Claims 3, 10, and 16 are dependent claims of claims 2, 9, and 15, respectively. Despite the fact that each of these claims are allowable because each depends on an allowable claim, the additional limitations claimed in these claims are additionally allowable because they are not taught or suggested by Sarno. These claims are Markush claims directed to a method / system / program product that further limits "calibration factors" as being selected from a group consisting of "centralized management, branch office management, transaction based, small team, hybrid management, discipline oriented management, resource oriented management, personal management, and no management required." The Final Office Action contends that this additional limitation is taught by Sarno at page 20, ¶ 0178, Figures 6-7, and page 20, ¶ 0179, Figure 8.

Paragraph 0178 of Sarno describes user interface screens used by various users related to "rollout schedules" for a proposed data warehouse monitoring scenario. While this paragraph does discuss user "roles" as they pertain to Sarno's cost justification software, the "roles" described by Sarno are not "calibration factors" that are grouped into "calibration sets," as claimed by Appellants. Moreover, none of the elements listed in Appellants' Markush groups (centralized management, branch office management, transaction based, small team, hybrid management, discipline oriented management, resource oriented management, personal management, and no management required), are taught or suggested in paragraph 0178 or elsewhere in Sarno. Thus, claims 3, 10, and 16 are independently allowable for these reasons in



addition to these claims being allowable because they depend on allowable claims 2, 9, and 15, as described above.

**Claims 4, 11, and 17**

Claims 4, 11, and 17 are dependent claims of claims 1, 8, and 14, respectively. Despite the fact that each of these claims are allowable because each depends on an allowable independent claim, the additional limitations claimed in these claims are additionally allowable because they are not taught or suggested by Sarno. These claims are directed to a method / system / program product that further provides for:

- storing one or more calibration factors corresponding to each of the topographical components in a component metadata file, wherein the comparing further includes comparing the identified client attributes with the calibration factors stored in the metadata file;
- identifying one or more components based on the comparing; and
- retrieving the identified components from a topographical component library.

The Final Office Action contends that each of these limitations is taught by Sarno, citing page 3, ¶ 0013, lines 15-20, and pages 5-6, ¶ 0035 as teaching the “storing” limitation, page 2, ¶ 0010, lines 12-23 as teaching the additional “comparing” limitation, page 2, ¶ 0010, lines 19-23 as teaching the “identifying” limitation, and page 2, ¶ 0012, lines 21-22, and page 3, ¶ 0012, lines 1-3 as teaching the “retrieving” limitation.

Paragraph 0013 is a general description of a computer system, including memory, computer readable medium, network connections and the like. Paragraph 0013 does not actually discuss “storing” any data whatsoever. Paragraph 0035 discusses a cost justification system that includes various user interfaces and a computer system “having stored therein the cost justification application.” Once again, this paragraph of Sarno does not teach or suggest “storing” anything. None of the cited sections from the Sarno reference teach or suggest “storing” anything, let alone storing the “calibration factors ... in a component metadata file, wherein the comparing [as claimed in the independent claims] further includes comparing the

identified client attributes with the calibration factors stored in the metadata file,” as claimed by Appellants.

Paragraph 0010, cited as teaching the refined “comparing” limitation, was also cited as teaching the “comparing” step introduced in the independent claims. As shown in Appellants’ discussion regarding the rejection of the independent claims, the only “comparing” described in Sarno’s paragraph 0010 is directed at comparing results from a cost justification system to “modified” results from the same system. Importantly, Sarno neither teaches nor suggests comparing anything to topographical components, as claimed by Appellants. As previously mentioned, a review of the entire Sarno reference reveals that none of the words “topographical,” “topography,” “topology,” “topography” appear anywhere in the Sarno reference.

The Final Office Action cites paragraph 0010, lines 19-23 as teaching the “identifying” limitation. This section of Sarno teaches that “the comparing step allows the impact of different expense rule to be determined. In particular embodiments, the comparing step allows the suitability of different vendor products to be evaluated (e.g., two or more vendor products may be compared for suitability for a particular user).” While Sarno does identify “different vendor products” to be “evaluated,” Appellants note that no “identification” of “components,” as claimed by Appellants, is taught or suggested by Sarno.

The Final Office Action next contends that Sarno anticipates Appellants’ limitation of “retrieving the identified components from a topographical component library,” citing page 2, ¶ 0012, lines 21-22, and page 3, ¶ 0012, lines 1-3 as teaching this limitation. This section of Sarno reads as follows: “In other embodiments, the cost justification application comprises user information selected from buyer information, rollout schedule information, knowledge base information, expense rule information, or combinations thereof.” In this section, Sarno is describing general aspects of his cost justification system and does not teach or suggest “retrieving ... components,” and certainly does not teach or suggest retrieving components from a “topographical component library,” as claimed by Appellants.

As described above, Sarno does not teach or suggest any of the limitations set forth in claims 4, 11, and 17. Accordingly, claims 4, 11, and 17 are independently allowable for these

reasons in addition to these claims being allowable because they depend on allowable claims 1, 8, and 14, as described above.

**Claims 5, 12, and 18**

Claims 5, 12, and 18 are dependent claims of claims 1, 8, and 14, respectively. Despite the fact that each of these claims are allowable because each depends on an allowable independent claim, the additional limitations claimed in these claims are additionally allowable because they are not taught or suggested by Sarno. These claims are directed to a method / system / program product that further provides for:

- packaging the selected topographical components in a topography installation file; and
- transmitting the topography installation file to the client computer system.

The Final Office Action contends that Sarno teaches Appellants' "packaging" limitation, citing page 3 ¶ 0014, and page 11 ¶ 0114 lines 1-9. Paragraph 0014 describes general aspects of Sarno's method for performing a cost justification analysis, including general descriptions of the user interface, application software, and computer system used to perform the analysis. Nowhere in paragraph 0014 does Sarno teach or suggest "packaging" anything, let alone Appellants' claimed limitation of packaging "topographical components in a topography installation file." Paragraph 0114 also does not teach or suggest anything to do with "packaging ... components" as claimed by Appellants. Instead, paragraph 0114 provides general descriptions of "cost of ownership" (COO) and "Total Cost of Ownership" (TCO), and does not teach or suggest Applicants' claimed "packaging" limitation.

The Final Office Action contends that Sarno teaches the "transmitting" limitation, citing page 21, lines 7-21. While a specific paragraph number was not cited in the Final Office Action, Appellants note that lines 7-21 of page 21 discusses seven types of assets that can be rolled out using Sarno's cost justification software. Once again, the cited section does not teach or describe anything regarding "transmitting" to a client computer and does not teach or suggest "transmitting" any installation files. Interestingly, the cited section does not teach or suggest any "transmitting" or "transmission," whatsoever.

As described above, Sarno does not teach or suggest any of the limitations set forth in claims 5, 12, and 18. Consequently, claims 5, 12, and 18 are independently allowable for these reasons in addition to these claims being allowable because they depend on allowable claims 1, 8, and 14, as described above.

**Claims 6, 13, and 19**

Claims 6, 13, and 19 are dependent claims of claims 1, 8, and 14, respectively. Despite the fact that each of these claims are allowable because each depends on an allowable independent claim, the additional limitations claimed in these claims are additionally allowable because they are not taught or suggested by Sarno. These claims are directed to a method / system / program product that further provides for *gathering the client attributes, the gathering including examining one or more attributes selected from the group consisting of client organization charts, client information technology, client surveys, client requirements, client physical environments, and client location data*. The Final Office Action contends that Sarno teaches these limitations, citing page 5 ¶¶ 0032 and 0033, Figure 12 as support.

Figure 12 is a “breakeven analysis” graph. Paragraph 0032 discusses business case assumptions and methods used in the cost justification system, and paragraph 0033 discusses a business impacts component of the cost justification system. While these sections of Sarno do teach “gathering” information used by Sarno’s cost justification system, they do not teach or suggest gathering the client attributes that are used to select topographical components and, in turn, installing such topographical components on a client computer system, as taught and claimed by Appellants. Thus, Sarno does not teach or suggest the limitations set forth in claims 6, 13, and 19. Therefore, claims 5, 12, and 18 are independently allowable for these reasons in addition to these claims being allowable because they depend on allowable claims 1, 8, and 14, as described above.

For the reasons set forth above, Appellants respectfully submit that each of the dependent claims rejected as being anticipated by Sarno are allowable. Appellants respectfully request that the rejections of these claims be **REVERSED**.

**(D) APPELLANTS' CLAIMS 7 AND 20 ARE NOT OBVIOUS, AND ARE THEREFORE PATENTABLE OVER SARNO IN VIEW OF BOWMAN-AMUAH**

The Final Office Action is unclear as to which claims are rejected as being obvious, and therefore unpatentable, over Sarno in view of U.S. Patent No. 6,662,357 to Michel K. Bowman-Amuah (hereinafter "Bowman-Amuah"). Paragraph 14 of the Final Office Action appears to reject claims 7, 13, and 20, while paragraph 15 appears to reject claims 7, 14, and 20. Claims 7 and 20 are directed toward the same subject matter, while claim 13 is directed to the same subject matter as claims 6 and 19, which were rejected under § 102 as being anticipated by Sarno. Claim 14 is an independent system claim that was also rejected under § 102 as being anticipated by Sarno – Appellants overcame this rejection in the preceding section. Therefore, it appears that claims 7 and 20 are the claims that the Examiner intended to reject under 35 U.S.C. § 103 as being obvious, and therefore unpatentable, over Sarno in view of Bowman-Amuah. Indeed, claims 7 and 20 include the claim limitations discussed in the Final Office Action, while claims 13 and 14 do not include such limitations.

As an initial matter, claims 7 and 20 are dependent on independent claims 1 and 14, respectively, and are therefore allowable for at least the same reasons that claims 1 and 14 are allowable, as discussed in the preceding section. Claims 7 and 20 are directed to a method / program product that add the following limitation to their respective independent claims: *"installing one or more topography neutral application components on the client computer systems, wherein the topography neutral application components is adapted to interoperate with more than one topography."* The Final Office Action admits that Sarno does not teach "topography neutral application components." In the preceding section of this Brief, Appellants established that indeed Sarno never teaches or suggests anything to do with "topography components" whatsoever. The Final Office Action contends that Bowman-Amuah teaches "topography neutral application components" that are "adapted to interoperate with more than one topography," citing col. 10, lines 61-67 and col. 11, lines 1-32 in support of this contention.

The Final Office Action fails to establish why or how it would be "obvious" to combine the teachings of Sarno with those of Bowman-Amuah. Sarno is focused on a method and system that analyzes user information for cost justification, such as integrating knowledge bases and

expense rules with a cost justification system. Bowman-Amuah, on the other hand, is focused on “managing information in a development architecture framework” (abstract). It is unclear as to why one of ordinary skill would combine the cost justification system of Sarno with the development architecture framework of Bowman-Amuah. Sarno does not teach or suggest developing software, but rather is focused on a cost justification that generate financial summaries and business cases that provide, among other things, a method for “facilitating the buying process for sellers and purchasers” (page 2, ¶ 0007).

For an invention to be *prima facie* obvious, the prior art must teach or suggest all claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). With regard to claims 7 and 20, the references fail to teach or suggest all elements of these claims. The independent claims on which these claims depend (1 and 14) include limitations not taught or suggested by Sarno (as discussed above).

Moreover, Examiner has failed to establish a *prima facie* case of obviousness because there is no motivation to combine the references, as required by the MPEP.

MPEP § 706.02(j) states, *inter alia*:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

MPEP § 2143.01 states, *inter alia* (emphasis added):

“There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie*

case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

...

#### **THE FACT THAT REFERENCES CAN BE COMBINED OR MODIFIED IS NOT SUFFICIENT TO ESTABLISH *PRIMA FACIE* OBVIOUSNESS**

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Appellants submit that there is no motivation to combine the references. Sarno teaches a way of performing cost justification analysis (see Sarno's Abstract, Summary, and Detailed Description). Bowman-Amuah, on the other hand, provides a development framework. There is simply no motivation to combine Sarno's cost justification system with Bowman-Amuah's

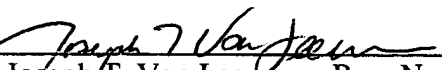
development framework. Indeed, neither reference teaches or suggests combining such teachings and the Examiner fails to provide any basis whatsoever for such a combination. Instead, it appears that the Examiner used Appellants' claim limitations as guideposts in searching and selecting references irregardless of whether such combination is proper. Accordingly, Appellants respectfully submit that the Final Office Action employed "impermissible hindsight" after reviewing Appellants' claim limitations in selecting the references and rejecting Appellants' claims 7 and 20.

Claims 7 and 14 each depend on an allowable independent claim and, therefore, are allowable for at least the same reasons that the independent claims are allowable, as discussed above. In addition, Appellants have demonstrated that the rejection of these claims under § 103 was improper because (a) there is no motivation to combine the references, and (b) the Examiner used impermissible hindsight in rejecting Appellants' claims. Accordingly, Appellants respectfully request that the Final Office Action be **REVERSED** and that Appellants' claims 7 and 14 be allowed over the art of record.

### **Conclusion**

For the foregoing reasons, Appellants submits that claims 1-6 and 8-19 are allowable over Sarno and that Sarno is not prior art to Appellants' claimed invention. In addition, the rejection of claims 7 and 20 under § 103 has been overcome and these claims are allowable over Sarno in view of Bowman-Amuah. Accordingly, Appellant respectfully requests that the Examiner's claim rejections be **REVERSED** and claims 1-20 be allowed.

Respectfully submitted,

By   
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Van Leeuwen & Van Leeuwen  
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**I. APPENDIX OF CLAIMS**

1. A method of calibrating a topography for a client, said method comprising:
  - identifying one or more client attributes corresponding to the client;
  - comparing the identified client attributes to one or more topographical components;
  - selecting one or more of the topographical components based on the comparing; and
  - installing the selected topographical components on one or more client computer systems.
2. The method as described in claim 1 further comprising:
  - grouping a plurality of calibration factors into one or more calibration sets, wherein the comparing further includes comparing the identified client attributes to the calibration factor sets.
3. The method as described in claim 2 wherein the calibration factors are selected from the group consisting of centralized management, branch office management, transaction based, small team, hybrid management, discipline oriented management, resource oriented management, personal management, and no management required.
4. The method as described in claim 1 further comprising:
  - storing one or more calibration factors corresponding to each of the topographical components in a component metadata file, wherein the comparing further includes comparing the identified client attributes with the calibration factors stored in the metadata file;
  - identifying one or more components based on the comparing; and
  - retrieving the identified components from a topographical component library.
5. The method as described in claim 1 further comprising:
  - packaging the selected topographical components in a topography installation file; and
  - transmitting the topography installation file to the client computer system.

6. The method as described in claim 1 further comprising:  
gathering the client attributes, the gathering including examining one or more attributes selected from the group consisting of client organization charts, client information technology, client surveys, client requirements, client physical environments, and client location data.
7. The method as described in claim 1 further comprising:  
installing one or more topography neutral application components on the client computer systems, wherein the topography neutral application components is adapted to interoperate with more than one topography.
8. An information handling system comprising:  
one or more processors;  
a memory accessible by the processors;  
one or more nonvolatile storage devices accessible by the processors;  
a topography calibration tool to calibrate a topography installed on a computer system, the topography calibration tool including:  
means for identifying one or more client attributes corresponding to the client;  
means for comparing the identified client attributes to one or more topographical components;  
means for selecting one or more of the topographical components based on the comparing; and  
means for installing the selected topographical components on one or more client computer systems.
9. The information handling system as described in claim 8 further comprising:  
means for grouping a plurality of calibration factors into one or more calibration sets, wherein the comparing further includes comparing the identified client attributes to the calibration factor sets.

10. The information handling system as described in claim 9 wherein the calibration factors are selected from the group consisting of centralized management, branch office management, transaction based, small team, hybrid management, discipline oriented management, resource oriented management, personal management, and no management required.
11. The information handling system as described in claim 8 further comprising:
  - means for storing one or more calibration factors corresponding to each of the topographical components in a component metadata file, wherein the comparing further includes comparing the identified client attributes with the calibration factors stored in the metadata file;
  - means for identifying one or more components based on the comparing; and
  - means for retrieving the identified components from a topographical component library.
12. The information handling system as described in claim 8 further comprising:
  - means for packaging the selected topographical components in a topography installation file; and
  - means for transmitting the topography installation file to the client computer system.
13. The information handling system as described in claim 8 further comprising:
  - means for gathering the client attributes, the means for gathering including examining one or more attributes selected from the group consisting of client organization charts, client information technology, client surveys, client requirements, client physical environments, and client location data.
14. A computer program product stored in a computer operable media for calibrating a topography for a client, said computer program product comprising:
  - means for identifying one or more client attributes corresponding to the client;
  - means for comparing the identified client attributes to one or more topographical components;
  - means for selecting one or more of the topographical components based on the comparing; and

means for installing the selected topographical components on one or more client computer systems.

15. The computer program product as described in claim 14 further comprising:

means for grouping a plurality of calibration factors into one or more calibration sets, wherein the comparing further includes comparing the identified client attributes to the calibration factor sets.

16. The computer program product as described in claim 15 wherein the calibration factors are selected from the group consisting of centralized management, branch office management, transaction based, small team, hybrid management, discipline oriented management, resource oriented management, personal management, and no management required.

17. The computer program product as described in claim 14 further comprising:

means for storing one or more calibration factors corresponding to each of the topographical components in a component metadata file, wherein the comparing further includes comparing the identified client attributes with the calibration factors stored in the metadata file;

means for identifying one or more components based on the comparing; and

means for retrieving the identified components from a topographical component library.

18. The computer program product as described in claim 14 further comprising:

means for packaging the selected topographical components in a topography installation file; and

means for transmitting the topography installation file to the client computer system.

19. The computer program product as described in claim 14 further comprising:

means for gathering the client attributes, the means for gathering including examining one or more attributes selected from the group consisting of client organization charts, client information technology, client surveys, client requirements, client physical environments, and client location data.

20. The computer program product as described in claim 14 further comprising:

means for installing one or more topography neutral application components on the client computer systems, wherein the topography neutral application components is adapted to interoperate with more than one topography.

**J. EVIDENCE APPENDIX**

The attached declaration under 37 CFR 1.131 and Exhibits “A” and “B” thereto were submitted to the United States Patent and Trademark office on July 30, 2004 along with Appellants’ Response to Office Action.

**K. RELATED PROCEEDINGS APPENDIX**

Not applicable.

# EVIDENCE APPENDIX J

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:  
Sweitzer, et. al.

Serial No.: 09/996,129

Filed: 11/28/2001

Title: System and Method for Analyzing  
Software Components using  
Calibration Factors

§ Group Art Unit: 2177  
§  
§  
§ Examiner: Channavajjala, Srirama T.  
§  
§ Attorney Docket No. AUS920010639US1  
§  
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§  
§

### DECLARATION UNDER 37 C.F.R. § 1.131

Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

DOUGLAS A. WOOD declares as follows:

1. I am an Applicant for the patent application entitled "System and Method for Analyzing Software Components using Calibration Factors," Serial No. 09/996,129, filed 11/28/2001, and an inventor of the subject matter described and claimed therein.
2. Prior to July 6, 2000, I conceived of, in the United States of America, the invention described and claimed in the subject application, as evidenced by the following:
  - a) I prepared a paper entitled "Tivoli Technology Strategy: Leverage for Speed," attached as Exhibit A hereto, which describes the invention described and claimed in the subject application. Each of the dates deleted from Exhibit A is prior to July 6, 2000.

Docket No.  
AUS920010639US1

Page 1 of 2

Atty Ref. No. IBM-1039

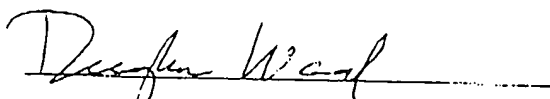
Sweitzer, et. al. - 09/996,129



## PATENT

3. From the date of conception, I was diligent in reducing the invention to practice, as evidenced by the following:
- a) On April 9, 2001, my co-inventor and I submitted IBM Invention Disclosure Form No. AUS8-2001-0577, attached as Exhibit B hereto, which describes the invention described and claimed in the subject application;
  - b) Other presentations and the like were prepared by me and/or my co-inventor that further described the invention and show our diligence in reducing the invention to practice. As some of these documents are lengthy and in some ways redundant with materials found in Exhibits A and B, they have not been attached to my declaration at this time. However, should the Examiner of my Patent Application request further documentation showing my, and my co-inventor's, diligence towards reducing our invention to practice, I will make whatever reasonable efforts are necessary to gather such documents and provide them to the Examiner.
4. I further declare that all statements made herein of my own knowledge and all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful and false statements and the like so made are punishable by fine or imprisonment or both under § 1001 of Title 18 of United States Code and that such willful and false statements may jeopardize the validity of the above-referenced application and any patent issuing therefrom.

FURTHER DECLARANT SAYETH NOT.

  
DOUGLAS A. WOOD

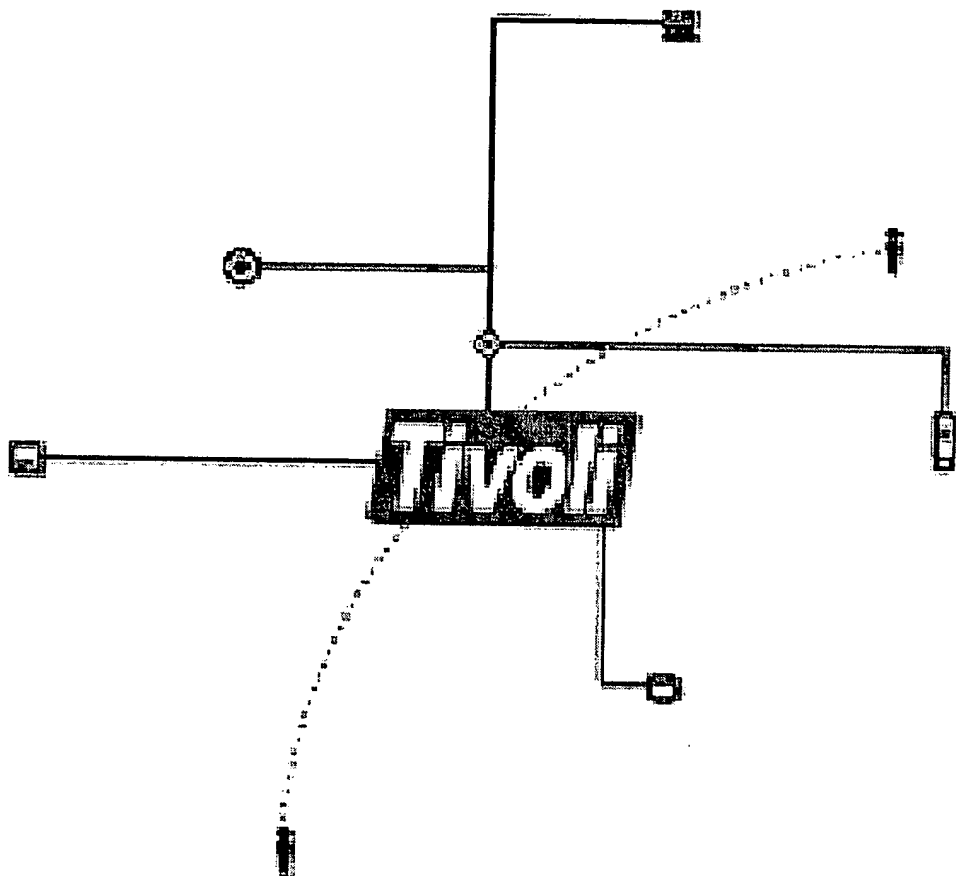
Date: 7/30/2004

# Exhibit “A”

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# Tivoli Technology Strategy

**“Leverage for Speed”**



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Version: Draft 0.2

Last Modified: [REDACTED]

Tivoli Confidential

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## Abstract

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The Tivoli Technology strategy is the instrument that translates the Tivoli corporate strategy into meaningful development methodologies, and provides the framework for technical decision making. To achieve this it must be set in the context of Tivoli's current and future business environment.

## Executive Summary

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The business environment is assumed to be growth oriented and dynamic. The business will expand through new market initiative, and through acquisition. These new initiatives will still require resource to be managed, although the definition of resource may be much broader than it is today. The approach or philosophy used to manage them may vary greatly.

Because of this it will never be possible, and indeed is not desirable to converge on a single technological solution or architecture. The technology infrastructure must be able to easily accommodate infusions of new technology, new kinds of resources, and new approaches to managing them. The technical strategy must enable Tivoli to easily support new market initiatives by creating a flexible technology base.

To accomplish this, the technical strategy is based on management topographies. A topography is the codification of the requirements of a specific management solution. It is assumed that Tivoli will require many topographies to support the diverse market initiatives. For Tivoli to be successful, the development community must be able to easily create and maintain a diverse set of topographies.

This is accomplished by a component architecture. Topographies are composed of components. The components are organized into categories that are archetypal management services. Because both the function of component categories and the boundaries between them are well understood, it becomes comparatively easy to recombine components to form new topographies, and easy to determine when new component instances are required. A single topography may be composed of components with widely varying implementations.

The component approach focuses on specific types of management services as opposed to management philosophies that are emphasized by a framework centric approach. This allows competencies to be developed around various types of management service that may be leveraged by many market initiatives.



## Purpose

[ This section is to describe the audience and how they are to use this document. Senior management and BU leadership]

The purpose of the technical strategy is to provide the leaders of the market initiative units (sometimes called Tivoli Business Units) the materials they need to understand what is and is not corporate technical strategy decisions.

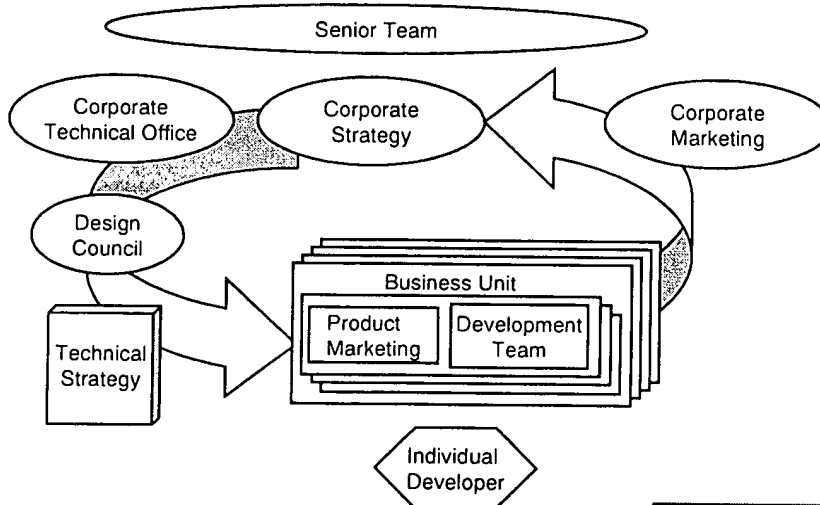
The technical strategy must facilitate a "leverage for speed" engineering culture within Tivoli.

It is important to note that this document is not intended for the general population at Tivoli. It is the responsibilities of the unit leaders to translate the relevant content of this strategy into material that make senses for their teams.

## Introduction

[ This section needs to explain the following chart... ]

### Looking Down from the top

**Tivoli**

The Tivoli Technology strategy is the instrument that translates the Tivoli corporate strategy into meaningful development methodologies, and provides the

framework for technical decision making. To achieve this is must be set in the context of Tivoli's current and future business environment.

It describes the operating environment that allows business units to define development plans for their products in the context of the Corporate Architecture.

The corporate strategy calls for continuing investment in new and emerging markets. To support these initiatives, the development community will be continual be asked to quickly provide new offerings. To accomplish this, the new offering must be able to easily leverage existing technology assets.

Some high level questions...

1. *How can technology be harnessed to meet the needs of our existing markets?*
2. *How can technology be exploited to create new business opportunities?*
3. *How can technology be managed to achieve economy of scale?*

### ***What type of business is Tivoli?***

---

**[By explaining how we have changed – setup why we need something new. Might not hurt to lay out that we are one of the 10 biggest software companies so what works for the smaller guys may not work for us]**

Tivoli System's business is a **profitable growth** business that is incorporating more products and is expanding into new and changing markets at a demanding rate. The technical strategy for Tivoli must systematically address this challenging environment by facilitating speed.

This means Tivoli continues to be a company in transition. Tivoli's first major transition was from a distributed object infrastructure provider to a management application provider. Then, Tivoli shifted from a single geography company to a global software vendor through the IBM acquisition. Then, Tivoli transitioned from a single business company into a multiple business company to position itself for growth. The one pattern that remains constant in these transitions is the subsequent one is more challenging and more difficult then the one before.

### ***Tivoli's Mission, Vision, and Values***

---

**[Build a short discussion around this material that leads into the role of the technical strategy....]**

**Mission:** To be the driving force in the changing role of technology by providing management solutions that allow our customers to unlock the power of technology.

**Visions Goals:**

- (1) \$25 Billion by 2005

- (2) We are Number 1 in Customer Loyalty
- (3) We are the Most Sought After Place to Work
- (4) Manage Anything Anywhere 1 Billion Devices by 2005

**Visions Description:**

( add them here)

**Values:**

( add them here)

## ***Tivoli's Corporate Strategy***

**[ This section is to describe the aspects of the corporate strategy that sets the context for the technical strategy: diverse overlapping markets]**

**Multiple markets is the next major transition in the business**

- I. Business Model Methodology
- II. Nerve's Wire's Future Mapping Methodology

In order to provide some order to the chaos surrounding the changing market place, Tivoli is making strategic investment decisions using an "end-state methodology". End states are outcomes that describe the enterprise IT environment and the management software industry over the strategic planning horizon. Based on this view, investments are balance based on the perceive likelihood of the end state and the benefit to Tivoli. The current end states are covered in the following table<sup>1</sup>.

End State	Main Themes
<b>A: It's All About Managing Services</b>	<ul style="list-style-type: none"> <li>Enterprises purchase a wide variety of IT services from diverse service providers.</li> <li>Product sales turn into service sales.</li> <li>Service and security management are the prime concern of both internal and external service providers.</li> <li>Management is available as a service offering to the enterprise.</li> </ul>
<b>B: Providing Higher Value-Added Management</b>	<ul style="list-style-type: none"> <li>E-Business and the Internet create new management challenges and opportunities</li> <li>Management vendors provide new value-added point product and focused suite solutions to managing digital assets, network-based data warehousing, multimedia communications, product telemetry, converged network services, etc.</li> <li>Equipment makers address traditional network and system management problems.</li> </ul>

<sup>1</sup> Note that the end states are not distinct. This is by design to reflect the reality that many of these end-states reflect competing and/or contrasting approaches that will co-exist in the market place.

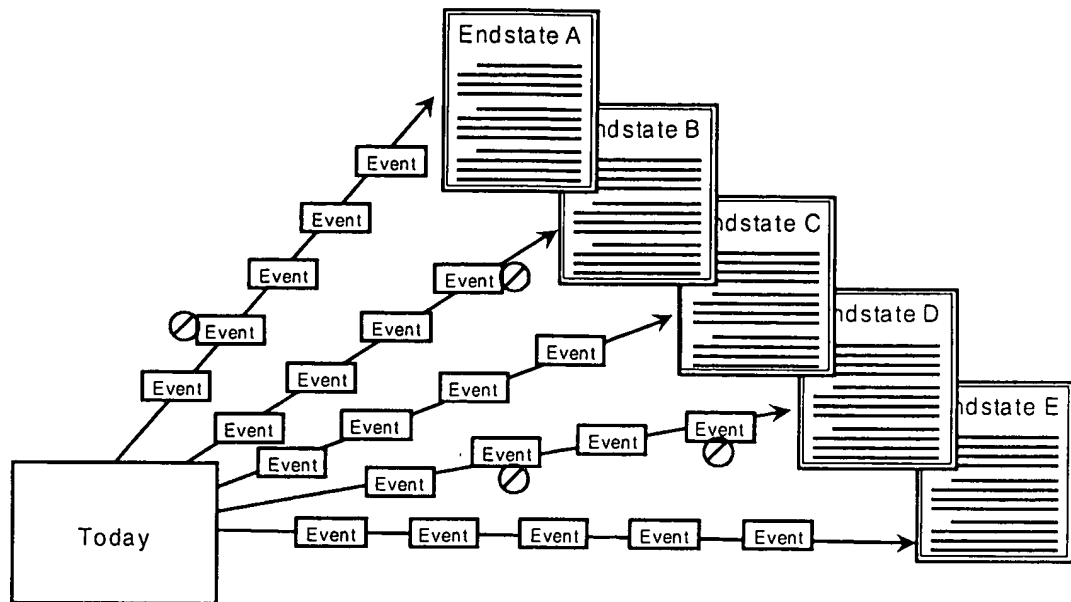
<b>C: Managing Virtual Value Webs and Net Markets</b>	<ul style="list-style-type: none"> <li>Enterprises participate in an increasingly complex web of electronic relationships and net markets; many adopt a more virtual approach to business.</li> <li>Detailed visibility into electronic links with market hubs, customers, suppliers, and partners is critical to success.</li> <li>Companies look to management vendors to assist them in creating new efficiencies and competitive differentiators, and to optimize their e-business links, transactions, and information flows.</li> <li>Management vendors have also adopted the ecosystem model.</li> </ul>
<b>D: Get Real</b>	<ul style="list-style-type: none"> <li>The G2000 enterprises change slowly and still struggle with the traditional problems and disciplines of network, system, and application management.</li> <li>Enterprises value management software that copes with both legacy systems and new technology.</li> <li>Nothing ever seems to go away – it just sinks deeper under layers and layers of new systems and software.</li> </ul>
<b>E: Ubiquitous, Built-In Management of the Global Utility</b>	<ul style="list-style-type: none"> <li>A robust, global computing utility infrastructure supports a proliferation of continuously connected devices, information kiosks and smart, connected industrial systems (e.g., networked gas pumps) for consumers and business computing markets.</li> <li>Management vendors provide SIs, system vendors, and large enterprises with componentized offerings designed for integration with other products and custom software.</li> <li>Always on and always available broadband, wireless access is prevalent to the home and businesses. The rapid rise of the mobile Internet, which started outside of the United States, has created a whole new generation of services, products, and portals.</li> </ul>

Because both the end state methodology is a predictive process, both the set of end states, and their likelihood varies across planning cycles. The emergence of new end-states may create the need to invest in new and previous unanticipated areas.

### ***What is a Business Unit? Multiple, overlapping marketing initiatives***

**[Describe the fact that there are multiple marketing initiatives, we will be creating more, our long term viability depends on our ability to play in multiple and to capture sales when organization go through transitions.]**

(So, describe the following)



## ***Standard Operating Environment***

**[This section need to expose the realities of Tivoli's environments that prevent goals like a single source tree across the company.]**

Tivoli's corporate strategy makes is necessary to assume standard Tivoli operating environment is characterized by the following:

1. There will be overlap in the functionality of our products because it will be necessary to experiment in new markets by leveraging what we have and what we can quickly bring into our portfolio.
2. The rate of change in both the markets and technologies will make it impossible for Tivoli to converge on a single technology base.
3. New technologies will be incorporated into the mix through acquisitions or similar activities on a regular basis
4. Multiple markets initiatives will impose conflicting demands upon solutions. (Multiple packaging, licensing, and pricing schemes.)
5. The strategy must be executable in the context of divergent end states. For example, we will ever have a single framework.

## ***Technical Strategy Criteria***

**[This section needs to set up the criteria from the point of view of what would be true if the technical strategy match the corporate strategy]**

Therefore, a successful technical strategy must meet the following criteria:

1. The technical architecture and the product packaging strategy must be independent. It must be assumed that Tivoli technologies will be packaged and delivered into different markets at different times.

*Key Question: How many different initiatives can we effectively handle at a time?*

2. It must provide economy of scale by enabling a wide reuse of technical expertise and implementations.
3. It must easily accommodate infusion of new technology without forcing major rewrites to conform to a master blueprint.
4. It must create a context for independent decision-making that does not interfere with Tivoli's business objectives.
5. It must be durable through organizational changes....restructuring of business units does not signal a change in Tivoli's technical strategy.

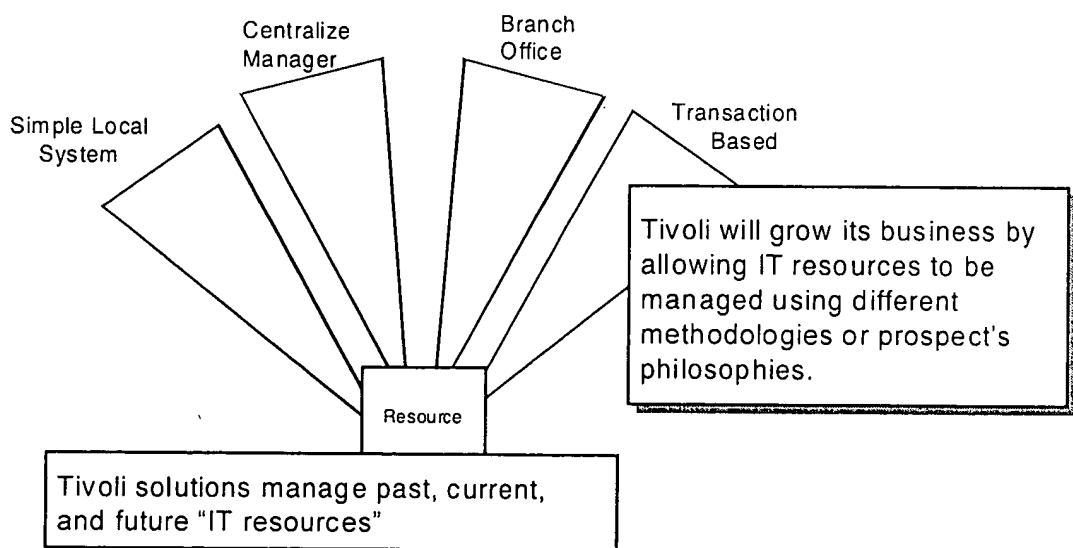
### ***Where does the Tivoli Technical Strategy Begin?***

#### **[What is constant about our business – Assumptions we've made]**

With all this change and overlapping views, the technical strategy needs a context that is durable over the strategic planning horizon. This context is based on the following two assertions:

1. Tivoli solutions manage past, current and future "IT resources". Future "IT" resources include notions like appliances, mobile devices, etc.
2. Tivoli will grow its business by allowing IT resources to be managed using different methodologies or management philosophies.

The management philosophy notion is an essential variant because one could simply describe Tivoli's growth strategy by asserting it is trying to accommodate multiple philosophies of managing resource.



This notion can be illustrated by looking at each of the end states. A short, and incomplete, view of the management philosophy for each of the end states is:

- (1) End State A – it is about managing services provided to many different companies with a control mentality
- (2) End State B – it is about managing higher order notions like business processes.
- (3) End State C – management becomes part of a technologies that facilitate the formation of virtual communities
- (4) End State D – IT organization continue to manage the heterogeneity
- (5) End State E – Management is no longer an issue.

The execution of the technical strategy must systematically lead to more flexibility<sup>2</sup> in the technologies Tivoli uses so Tivoli can create new business opportunities.

This technology strategy seeks to leverage our competencies in providing these services rather than depend on any specific technologies or infrastructures.

### ***How is a market initiative different from a startup company?***

[Discuss why we can't run new market initiative like start-up – Global reputation raises the bar – Reliability, Scalability, I18N]

## **What demands does the corporate strategy place on technology?**

[Describe the things that our technology/architecture/development process must be able to accomplish for the corporate strategy to succeed]

### **Translate the criteria for success into technology and architecture issues**

Tivoli's technical strategy identifies the important interfaces by defining components.

Tivoli's technical strategy is based on a "component" architecture. "Component" approaches require a common understanding of the scheme or taxonomy used to characterize good or well-behaved components. Good or well-behaved

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<sup>2</sup> How do we measure flexibility?

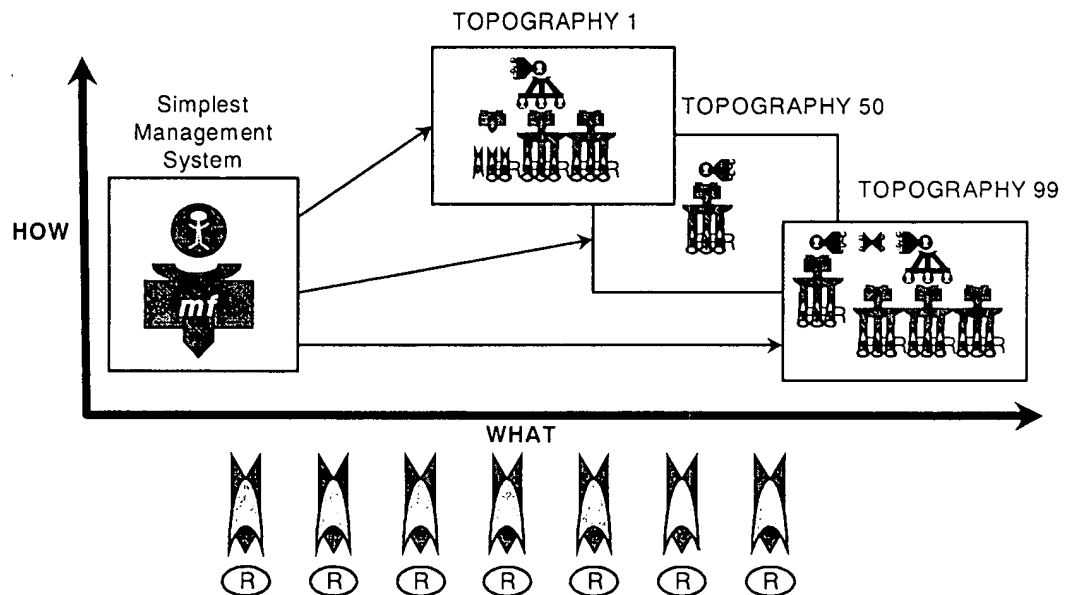
components within the Tivoli architecture are those that can be recombined to implement different management philosophies for a set of resources. A combination of components that implement a particular management philosophy is referred to as topography.

Tivoli's technology strategy seeks to increase flexibility by segregating variation, and by defining clear boundaries between components of the management structure that vary along different axis's.

This technical strategy allow Tivoli to vary the following parameters to expand its business:

- (1) What we manage...
- (2) How we manage....
- (3) How we deliver it...

Tivoli's value-add increase with both the number of resources managed and the complexity of the management philosophy.



A major leg of our technical strategy is to "encourage the development of management philosophy neutral components with the intent that they will be deployed and package for many topographies".



## ***Implications of Corporate strategy***

---

[This Section explains the specific requirements placed on the technical strategy by corporate strategy. That is the requirements for flexibility and dynamic technology leverage – Tie to operating environment]

Explain why we can't converge on single framework, programming model, source tree etc.

## ***What is the right way to do system management?***

---

[This section introduces management philosophy and explains why it is the fundamental variant in what technology is required to support a market initiative – Point 2 from context]

[Explain shift from Tivoli advocating a management philosophy to seeking to support customers philosophy]

Prospects that intend to use Tivoli solutions are predisposed to the "right" way to attack management. This predisposition is a blending of beliefs that address the following areas:

- Who performs what management activities?
- How are these folks organized? That is, what is the correct structure of the IT organization?
- Where are decisions about management activities made?
- Who manages what resources?
- How is management capability deployed into the environment?
- How much influence does the IT organization have over the consumers of the IT resources?
- What IT resource are managed?

This predisposition can be characterized as a management philosophy. A management philosophy expresses a set of beliefs or predisposition's about the right or desirable way to approach management. These beliefs go beyond technology or the mechanics of a specific management product.

Management products tend to codify in the product architecture one, or a set of related, management philosophies. These philosophies proscribe the set of markets the product can address.

The technical strategy seeks to limit the expression of a Management philosophy to a well-defined set of components, and where possible, to have a component only express a single facet of the philosophy. In addition, some aspects of the philosophy can be expressed in the arrangement of components so they need not be part of any component.

Growth can not be sustained by limiting Tivoli's solutions to a single management philosophy or methodology. In the same way that Tivoli cannot limit its language support: If Tivoli limits itself, it is choosing to ignore a part of the market. This requires that the technology be positioned to support a wide range of management philosophies, and to easily accommodate new philosophies as they emerge.

It was fine to advocate a management philosophy when the large portion of the internal enterprise market that accept it were sufficient to drive our growth. Supporting multiple management philosophies is market expanding just like internationalizing our products was.

### ***Anything is a lot***

---

**[This section discusses the explosive growth in number of kinds of things we have to manage that is implied by the corporate strategy – Pont 1 from context]**

### ***So where is Anywhere?***

---

**[Discuss the need to be able to quickly produce management solutions that work in new environments]**

Both the components used by a topography and their characteristics are impacted by the hosting environment of the components and the physical deployment environment or distributed topology of a management solution. In addition, management solution must adapt to both the organizational structures of the managed environment, and of the operating organization. Some aspects of deployment reflect management philosophy and some reflect physical constraints.

---

## ***How can Tivoli leverage its successes?***

---

In a framework approach, applications and resource interfaces are tied to the framework. A new framework means new everything. In a component approach, only the things that need to be different are rebuild

Frameworks X Applications X Resource types = Development effort

Components + Backplane + Resource types = Development effort

---

## **Components – Designing for speed**

---

This section describes what Tivoli's Component Architecture is, why is it important to the strategy, and references the component architecture document:

The strategy addresses its requirements by delineating well defined boundaries between components of the technology portfolio to allow each component to vary independently of others, and to reduce the amount of time it takes to assemble components for different market initiatives.

---

## ***How is a management solution defined?***

---

[This section describes how the concept of topography can be used to codify and graphically depict the technology and architecture required to support a market initiative Criteria 2]

*The definition of "topography" is the art or practice of graphic delineation that shows the relative position of important surfaces.*

In the context of Tivoli's Technical Strategy, the connotation of "topography" is the art or practice of delineated the relative position of components that combine to embody a particular management philosophy. Therefore, a solution that embodies a particular management philosophy is a particular topography. When an engineer become familiar with a particular topography they ought to understand how a family of components can be used to deliver a particular solution.

Topography provides a common vocabulary for describing discussing and analyzing the solutions required by various parts of Tivoli's business. This vocabulary is not colored by any implementation approach or programming model.

The goal of topographies is to isolate the management philosophy dependencies in a well-defined and understood set of components that compose the management infrastructure.

The premise behind this is: there is a relatively standard set of management services or activities that are common to most market initiates, but the way they

are deployed and used varies greatly. This implies that leverage may be obtained by separating the management activities from their employment.

### ***Management Topography Example***

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The topography notion can be used to illustrate the differences between the following two management philosophies that are common in distributed management environments:

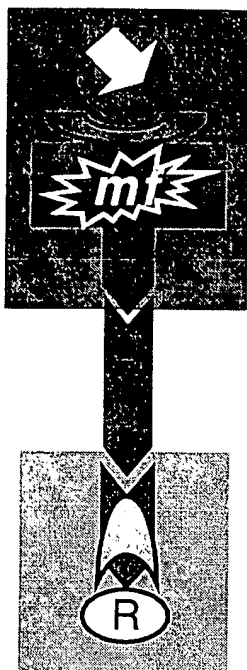
- (1) Management functions should be located on a centralized server with feeders to the resources to minimize the resource consumed on the end points and to allow more cross resource decisions making.*
- (2) Management services ought to be close to the resource so key decision can be made locally and so the decision making capability is not exposed to network outages.*

This can be illustrated by contrasting two approaches to implementing monitoring.

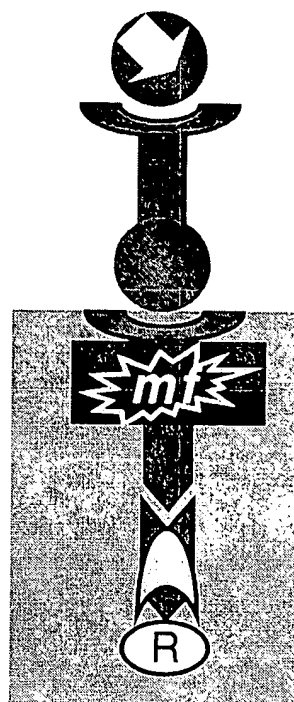
The topographical components (see "Component Overview" on page 23 for symbol legend) that will be used in this example are:

- (1) Activity
- (2) Management Actor - The monitoring function is configured to retrieve specific attributes from a selected set of resources at predefined time intervals. The monitor feeds the values to an analysis engine that performs threshold type analysis on the raw data, and cross resource correlation.
- (3) Touch Point – This component knows how to interact with a particular type of resource.
- (4) Management Operator Conduit – This is a component that transports a management operation from one machine to another.
- (5) Management Activity Conduit. This is a component that transports a management activity from one machine to another.

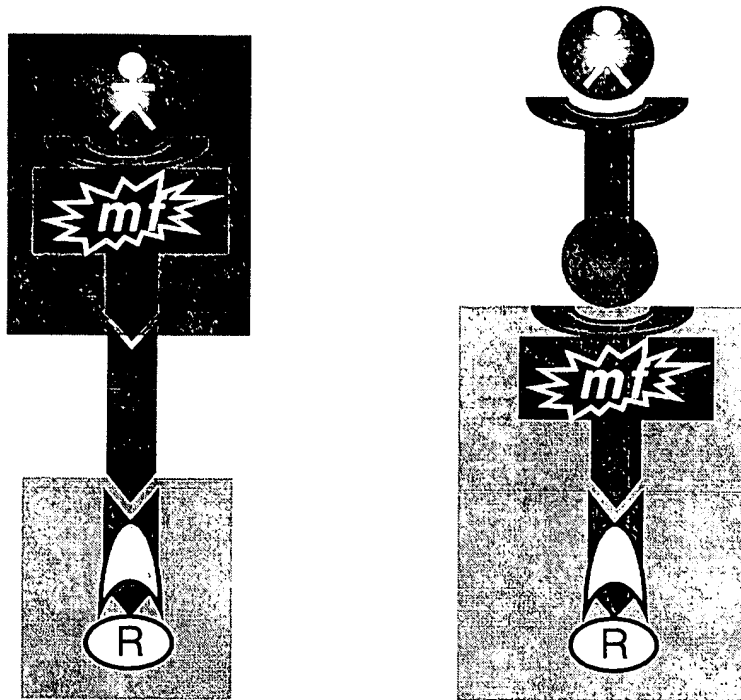
The following graphic illustrates how the two different management philosophies can be implemented use common topographical components.



Management Function Remotely  
Accesses Resource



Remote Invocation of Local  
Management



Management Function Remotely  
Accesses Resource

Remote Invocation of Local  
Management

The management philosophy is captured in two ways:

1. The arrangement and selection of the topographical component.
2. The characteristics of the individual components used to build a topography

### ***Topographical Components***

A topographical component is a component category that clusters a set of design discussions. Each component category clusters a set of abstract services. They are abstract because an implementation and programming model are not specified. The topographical components form a taxonomy that allows engineers to categorize the capabilities of a particular implementation.

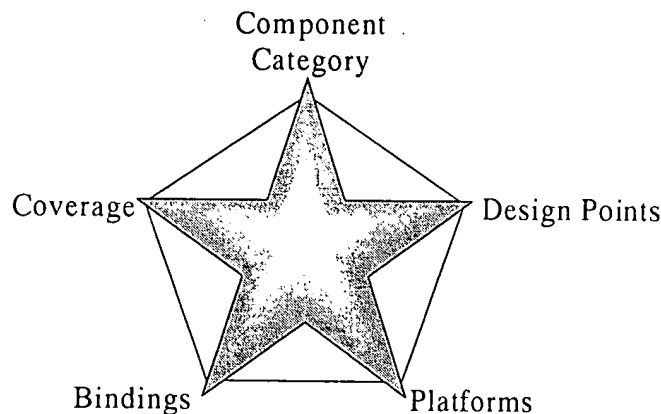
A *component category* clusters a set of design discussions. The type of information captured for a particular category is its *description*, its *coverage dimension*, and the *Design Points* for each. The description is simply that: an informative description. The coverage dimension describes how Tivoli decides that it needs another component in the category. The design points are the factors that describe the specific capability of an instance in this category.

An example of a component category is "touch points". This category is a direct derivative of one of the two assertions the drives Tivoli's technical strategy: Our solutions manage past, current and future "IT resources".

## ***How many components do we need?***

---

**[Set up design points and component categories in a non technical way  
– We still build more than one of the same type of thing, but we build multiples because it needs to function differently not because it has to work in a new configuration]**



### **Platform Coverage (Porting)**

#### ***Topographical Backplane***

---

The purpose of the backplane is to provide an environment in which components can easily be configured in many different configurations. The backplane can be thought of as the surface on which the components of a topography are assembled. It should not be thought of as an object framework in which components that conform to its requirements are instantly usable. It is closer to an enterprise application integration tool in which a modest amount of custom work is required to integrate each component.

To accomplish this, a backplane needs to provide the following:

- A standard definition of how components interact. It may, but need not provide support for the interactions. This is what allows components to be easily reconfigured.
- Services that must be available for all components. Services that are provided by the backplane should be very management philosophy neutral. Ubiquitous industry standards are good candidates. Two possible candidates for backplane services are authentication/authorization, and deployment/installation

## ***How are components built?***

---

[Describe role of programming libraries and support services such as DAS]

## ***How is a topography different from a framework***

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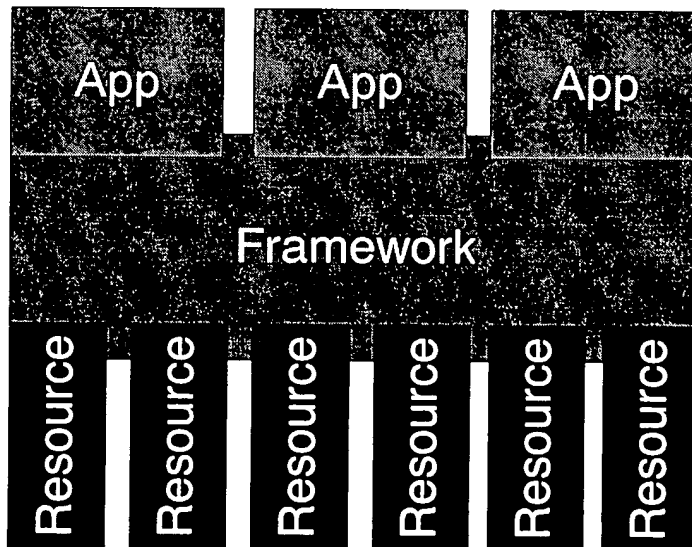
The components of a management system can be loosely organized into two categories:

- Those that support specific management services
- Those that provide infrastructure that is usable by many management services.

For a given implementation of a management system, the infrastructure is common supporting many management services. Because of how it is implemented, the infrastructure is often referred to as a framework, and the various management services as application. The framework embodies a philosophy or approach to management. The applications are relatively neutral, but tend to reflect the approach of the hosting framework.

A framework is intended to provide a common set of functions that are reusable by all of the management services it supports. Frameworks provide solutions to problems that are common to all management services such as distributed communication authorization, and resource selection.

A framework based management system might be depicted as:



The framework defines characteristics of the management system such as the:

- Control model
- Scale
- Resource aggregation mechanism
- Distributed topology

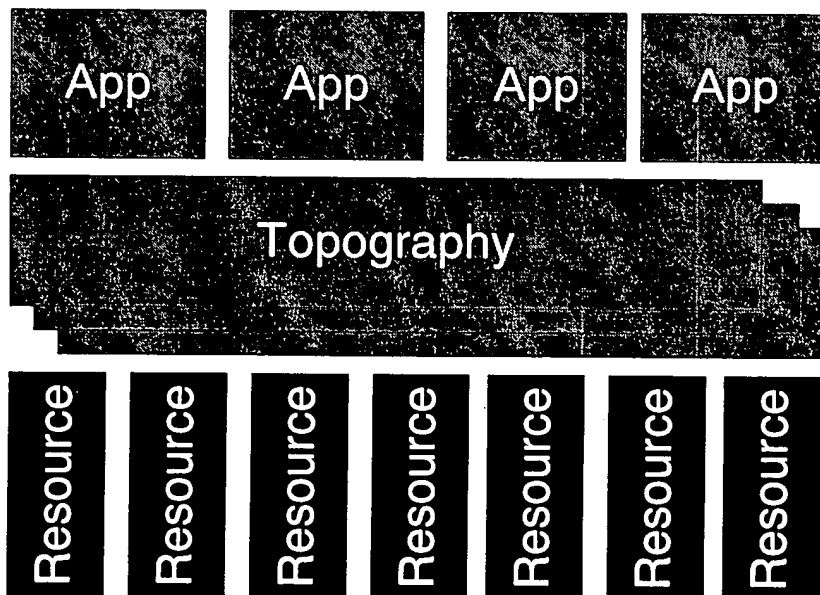


➤ Resource interaction style

Collectively, these define the management philosophy the supported deployment environment and the supported resource mix.

The framework model works well when it is only necessary to support a single management philosophy. However, when a framework is stretched to implement multiple philosophies that are not closely related it becomes awkward and inconsistent.

Because most of the characteristics of a management philosophy are expressed in common infrastructure, it is possible to build management services, and resource interfaces that are philosophy neutral. When the characteristics of a management service that are effected by philosophy are well delineated from those that are not, it is possible to build management services that can support multiple philosophies. This approach can be depicted as:



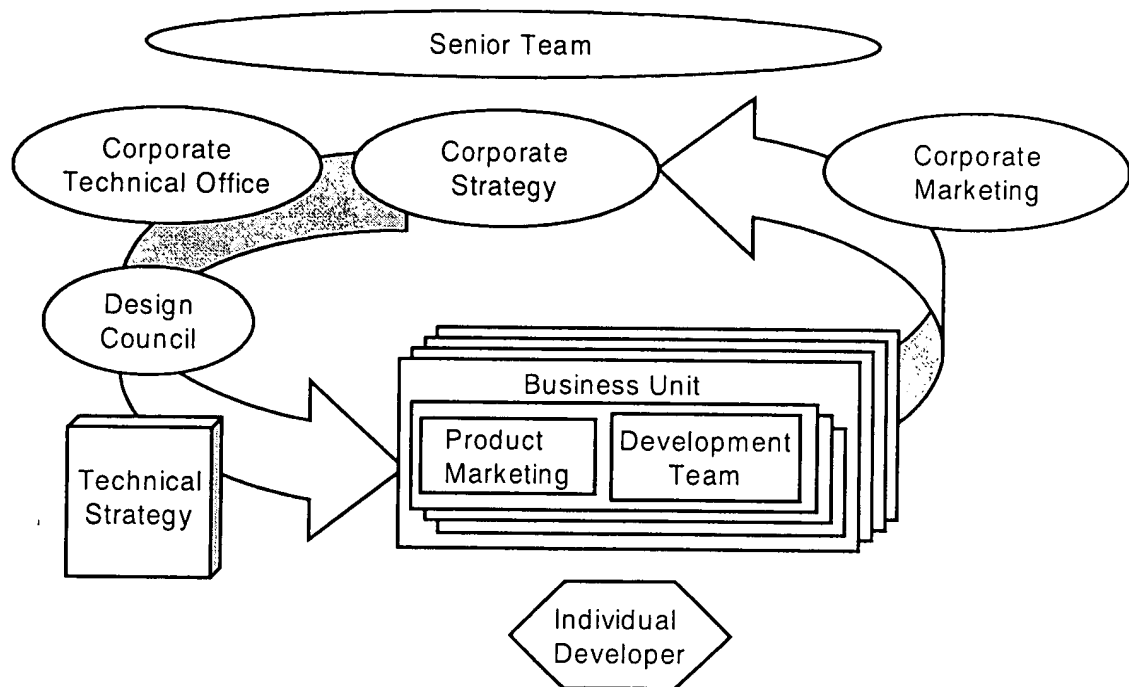
Topographies differ from frameworks in that frameworks explicitly publish a management philosophy that is expected to permeate services that are implemented on top of the framework. Topographies explicitly localize facets of management philosophy into well-defined components. The philosophy supported by a topography based management system can be changed by replacing or rearranging those components that express it. Most components, especially those that implement "management applications" have any expression of management philosophy distilled out of them.

## ***How does a topography become a product?***

[Discuss what needs to be done to assemble components into products  
– Make clear that there is some work – Its not magic – Criteria 1]

## **Creating a culture for speed**

[This section outlines how the technical strategy is put into operation –  
That is it lays the foundation for a detailed operation plan]



## ***How are technical decisions made?***

---

[This section outlines who is responsible for what kind of decisions  
Criteria 4]

### ***Role of CTO's office***

---

[Describe the role of the CTO's office as keeper and standard bearer of  
a unified technical and architectural vision]

### ***Role of Design Council***

---

[Describe design councils role as a bridge between the CTO's office  
and the development community]

### ***Role of Business units***

---

[Describe the role of business unit leadership in projecting the  
requirements of the technical strategy into individual product plans]

### ***Empowering the development community***

---

[Describe how the strategy creates a structure that allows technical  
decisions to be federated]

For decisions that relate to well understood component categories: Decisions can be delegated to a person/group responsible for the component category. (This meets goal 4). Because the component categories are inherently cross topography (In today's structure – cross framework), there is an inclination to making the decisions in a strategic context.

What does the technical ownership of a component category look like?

Should there be a Product Manager for each component category?

How are new component categories created?

What about the backplane?

How are TST type projects handles? I think TMD becomes part of the backplane. What about DAS?

## ***Operating Environment***

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***How is the technical strategy enforced?***

***How is the technical strategy enhanced?***

***How are exceptions granted?***

---

## ***Approach to development***

---

[Explain how structuring most of the development process around component categories creates stability in the swirl of varying market initiatives. Criteria 5]

### ***Creating a culture for speed***

---

[Describe the cultural context for development that complements the technical strategy]

There are several fundamental shifts implied by the technology strategy

It is ok to have more than one technology. The competition to determine what will be “the next framework” is meaningless

We ask our customers what management philosophy they want instead of telling them what we have.

We seek to enable variation instead of striving for uniformity

#### **Component Categories reflect competencies**

A key aspect of Tivoli’s technical strategy is a shift in emphasis from a framework to a collection of topographical components that reflect a set of competencies and support technologies that allow us to address prospects with different management philosophies.

## ***Integrating New Technologies into the Tivoli Fabric***

---

[ This section should accomplish two objectives. First, it should describe the systematic steps Tivoli ought to use to map acquired technology into the Tivoli family. Second, these same steps ought to be used to map our current technologies into this approach.]

### ***New Initiatives***

---

In order to facilitate leverage, we move into new market initiatives by asking two questions:

- (1) which of the existing topographies is close?
- (2) What needs to change to address the new initiative?

There are several flavors of change.....new backplane, change design points,

## ***Research***

---

**Lay out criteria for evaluating research proposal**

**Describe how successful research projects are moved into production**

Planned investigation on new technology.

What about unplanned investigation that occurs as a result of the normal development process?

## ***Acquisitions***

---

**[Criteria 3]**

**How do we evaluate the viability of an acquisition?**

**What is the road map for integrating newly acquired technology?**

What steps must an acquired product take to be a full member of the Tivoli product family?

## ***Existing products***

---

**[Based on the acquisition road map – develop a road map for rolling out the strategy into the organization – This will eventual be its own document]**

We need to start factoring out framework dependencies from applications and touch-points.

## ***Moving on to the new***

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[This section defines the strategy for maturing and obsoleting technology]

## ***Standards***

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## **Summary**

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Grid of criteria and the solution

## **Appendix - Topography Technical Overview**

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All topographies are composed of a set of standard components. A specific topography is defined by a combination of the way the components are assembled and the characteristics or design points defining each component.

For example, a standard component is a management operation conduit. The conduit carries management operation between a management function and a resource. In a particular topography, the conduit may be implemented as a synchronous CORBA connection. In a second topography, the conduit may be implemented as an asynchronous message based connection. In a third (simpler) topography, the management function may be directly connected to the resource so the conduit is not present. The implementor of the management function need not be aware of the characteristics of the conduit.

The components define the major characteristics of a management system. These include:








- How management activity is initiated
- Where management activity is approved or authorized
- How management activity is communicated between the management console and the resource.
- Where specific management services interact with the management infrastructure.

The structure of a topography can be represented graphically. The organization of the components expresses the structure of a management solution. The infrastructure components are represented by standard set of symbols that can be used to build topography diagrams. Symbols for the specific management functions that comprise a management service can be developed and used to depict how these functions interact with a specific infrastructure model.

## ***Component Overview***

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A sample set of topographic components is shown in the following table. The set is not exhaustive; it represents a relatively well understood set of components for common infrastructure that are found in most topographies.

Symbol	Category
	Management Activities
	Resource
	Resource "touch-point"
	Management functions
	Conduits
	Multiplexers
	Inter-management system bridge

## Design points

The topographical components are an archetype or pattern for a specific kind or function. Design points describe the characteristics of a specific instance of a component. Each design point describes a fundamental characteristic of one or more components. Each design point has an associated set of values it may have. In most cases, the values are a discrete set not a range.

The values discussed for each design point are the known set of values based on analysis of existing applications. They should not be taken as a complete set.

As the implementation of the technical strategy matures, many of these design points will be associated with common programming or implementation services. When such services exist, they could be used to implement a design point specified for a particular topography component.

## ***Design Point Example - Processing Style***

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### **On demand**

This type of touch point goes into session with the resource when a operation is requested so all operations are wrapped with a close and an open.

### **Session Based**

This type of touch-point hold an open session and waits for operation requests like get or set configuration setting.

### **Staged**

This type of touch points caches the current values of the resource at some interval and the operations work against the cached values.

## ***Topographical Backplane***

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### **Security**

#### **Installation**

There is a widely accepted view among customer about how installation should be performed. It can be paraphrased as "I want it to happen by magic, and the result to reflect my preferences". Since all components require installation, and the magic can be the same for all components as long as it works for all topographies, it is a good candidates for the backplane.

While it is possible to perform topographical analysis with an abstract back plan, it is not possible to define meaningful implementations of components. A concrete backplane imposes constraints on all components that are to be used with it. These constraints take two forms:

- The character of, and interface with the services actually provided by the backplane
- The inter-component interfaces which are specified by the backplane.

Concrete backplanes may not be able to provide complete flexibility because of issues of scale and footprint. In fact, a basic premise of this strategy is that many backplanes will exist and that this is OK.

Because the backplane has some of the characteristics of a framework, it would be easy to think of it as such. It differs from a framework in several important ways. They are:

- Although it defines the semantics of component interaction, it seeks to do so in as programming model neutral a way as possible



- It seeks to be as thin as possible. Many of the services of a traditional framework are provided by interchangeable components
- Although it may provide some communication services, it is not the definitive means of communicating within a management solution. Conduit components may implement communication service where appropriate.

## Deployment

Deployment reflects the way components of a management solution are placed in the physical environment as defined by both where services are hosted and virtual distance as measured by cost and availability of bandwidth.

Pre Loaded or Static

First Used

On Demand

Transaction based

# Exhibit “B”



## Disclosure AUS8-2001-0577

Prepared for and/or by an IBM Attorney - IBM Confidential

Created By: Peg MacPhail Created On: 04/09/2001 09:44:13 AM

Last Modified By: Peg MacPhail Last Modified On: 04/10/2001 07:50:17 AM

Required fields are marked with the asterisk ( \* ) and must be filled in to complete the form .

### \*Title of disclosure (in English)

Use of topographies to provide management solutions inline with a prospect's management philosophy

### Summary

Status Under Evaluation  
Processing Location AUS  
Functional Area 59 - TIVOLI - (Bob Yellin)  
Attorney/Patent Professional Leslie Van Leeuwen/Austin/IBM  
IDT Team Sebastian Hassinger/Tivoli Systems; John Sweitzer/Tivoli Systems; Rabindranath Dutta/Tivoli Systems  
Submitted Date 04/09/2001 03:05:04 PM EDT  
Owning Division TIV  
Incentive Program  
Lab  
Technology Code  
PVT Score No PVT score has been calculated.To calculate a PVT score, press the 'Calculate' button.

### Inventors with a Blue Pages entry

Inventors: John Sweitzer/Tivoli Systems, Doug A Wood/Tivoli Systems

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Wood, Douglas A.	904937	46/1X9A	N/A	Sweitzer, J.W. (John)

> denotes primary contact

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Select Functional Area

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John Sweitzer/Tivoli Systems  
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Attorney/Patent Professional:  
Leslie Van Leeuwen/Austin/IBM

Response Due to IP&L : 05/10/2001

**\*Main Idea**

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

A method is provided to break-up any management solution into well-defined components with well-defined boundaries such that the components can be assembled into a topography matching the desired management philosophy.

The definition of "topography" is the art or practice of graphic delineation that shows the relative positioning of important surfaces. In the context of Tivoli's Technical Strategy, the connotation of "topography" is the art or practice of delineating the relative positions of components combined to embody a particular prospect's philosophy.

A philosophy expresses a set of beliefs or predisposition's about the right or desirable way to approach management. Growth can not be sustained by limiting Tivoli's solutions to a single management philosophy or methodology. In the same way that Tivoli cannot limit its language support: If Tivoli limits itself, it is choosing to ignore a part of the market. This requires that the assets be positioned to support a wide range of management philosophies, and to easily accommodate new philosophies as they emerge. Figure 1 shows the interaction between philosophy-based point solutions and the technologies that Tivoli manages. **Topographical components are the system level elements used to implement a philosophy-specific management system.**

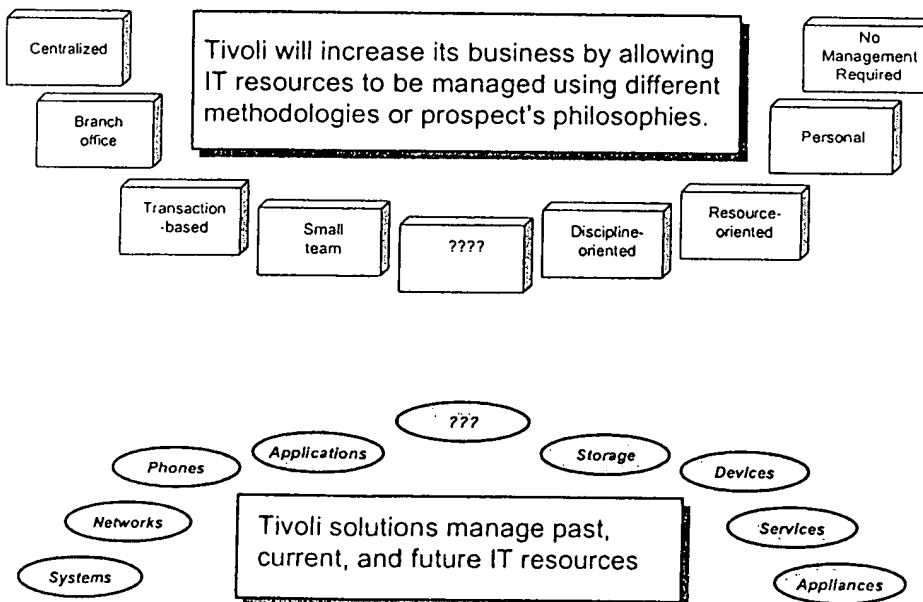


Figure 1

Figure 2 shows how a topography can be constructed to match a customer's philosophy. The left

topography shows a set of system-level components arranged to have the management function near the user-initiated control. The right topography shows a set of system-level components arranged to have the management function close to the resource being managed.

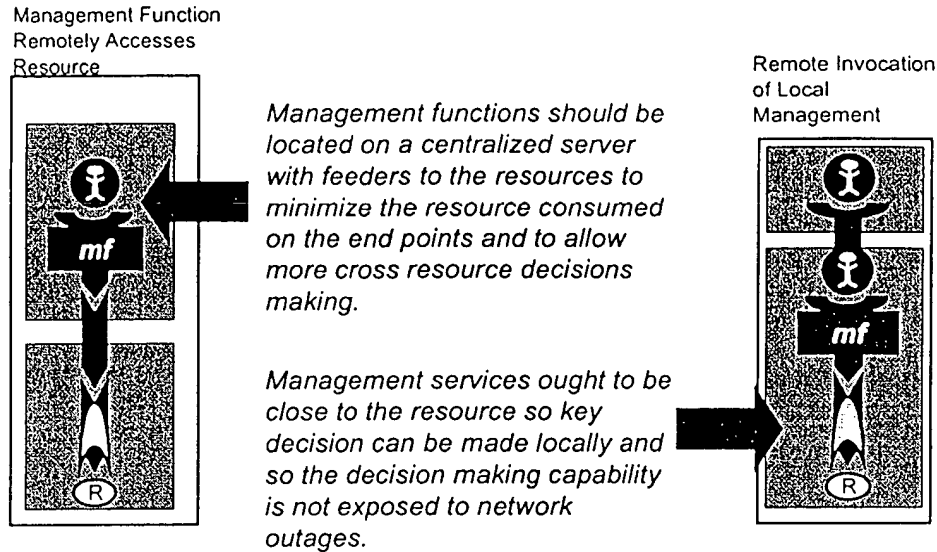


Figure 2

2. How does the invention solve the problem or achieve an advantage, (a description of "the invention", including figures inline as appropriate)?

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.

**\*Critical Questions (Questions 1-9 must be answered in English)**

**\*Question 1**

On what date was the invention workable? 06/01/2000 **Please format the date as MM/DD/YYYY**  
(Workable means i.e. when you know that your design will solve the problem)

**\*Question 2**

Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?

☐ Yes  
☒ No

If yes, Enter the name of each publication or patent and the date published below.

Publication/Patent:

Date Published or Issued:

Are you aware of any publications, products or patents that relate to this invention?

☐ Yes  
☒ No

If yes, Enter the name of each publication or patent and the date published below.

Publication/Patent:

Date Published or Issued: internal Tivoli documents in notes team room and on the internal web

**\*Question 3**

Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?

☐ Yes  
☒ No

Is a sale, use in manufacturing, product announcement, or proposal planned?

☐ Yes  
☒ No

If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made.

Product: most of Tivoli's products will use topographies starting in 9/01

Version/Release:

Code Name:

Date:

To Whom:

If more than one, use cut and paste and append as necessary in the field provided.

**\*Question 4**

Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMs?

☐ Yes  
☒ No

If yes, give a date. Please format the date as MM/DD/YYYY

**\*Question 5**

Have you ever discussed your invention with others not employed at IBM?

☐ Yes  
☒ No

If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.

**\*Question 6**

Was the invention, in any way, started or developed under a government contract or project?

☐ Yes  
☒ No  
☐ Not sure

If Yes, enter the contract number

**\*Question 7**

Was the invention made in the course of any alliance, joint development or other contract activities?

☐ Yes  
☒ No  
☐ Not Sure

If Yes, enter the following:

Name of Alliance, Contractor or Joint Developer

Contract ID number

Relationship contact name

Relationship contact E-mail

Relationship contact phone

**\* Question 8**

Have you, or any of the other inventors, submitted this same invention disclosure or similar invention disclosure previously?

☐ Yes  
☒ No

If Yes, please provide disclosure number below:

**\* Question 9**

Are you, or any of the other inventors, aware of any related inventions disclosures submitted by anyone in IBM previously?

☒ Yes  
☐ No

If Yes, please provide the docket or disclosure number or any other identifying information below:  
the M12 work is related

**Question 10**

What type of companies do you expect to compete with inventions of this type? *Check all that apply.*

- ☐ Manufacturers of enterprise servers
- ☐ Manufacturers of entry servers
- ☐ Manufacturers of workstations
- ☐ Manufacturers of PC's
- ☐ Non-computer manufacturers
- ☒ Developers of operating systems
- ☒ Developers of networking software
- ☒ Developers of application software
- ☒ Integrated solution providers
- ☒ Service providers
- ☐ Other (Please specify below)

**Question 11**

If the invention relates to a product or service that is outside the scope of your business unit, please recommend IBM business unit(s), IBM location(s) or individual(s) within IBM that you think would provide a good evaluation of your invention:

**Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evaluation)**  
(The Patent Value tool can be used by the inventor(s) to determine the potential licensing value of your invention.)

No PVT score has been calculated. To calculate a PVT score, press the 'Calculate' button.

**Market**

What is the anticipated annual market size (in dollars) that will be captured by your invention?

**CLAIMS**

**Question 1 - How new is the technical field?**

**Question 2 - How central is the invention to the product(s) which might be expected to contain the invention?**

**Question 3 - What is the scope of the claim?**

**PORTFOLIO NEED**

What are the portfolio needs in the area of your invention?

**EXPLOITATION & ENFORCEMENT**

Question 1 - How easily can the use of the invention by a competitor be detected?

Question 2 - How easily can the use of the invention be avoided by a competitor?

**BUSINESS VALUE**

Question 1 - What percentage of the companies producing products in the field of this invention might use this invention?

Question 2 - What is the value of this patent to current or anticipated Alliance Activity between IBM and other companies?

Question 3 - What is the value of this patent to current or anticipated Technology Transfer Activity between IBM and other companies?

Question 4 - Does it result in prestige to IBM?

**Post Disclosure Text & Drawings**

Enter any additional information relating to this disclosure below:

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(Form Revised 12/17/97)



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